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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/787,501	03/16/2001	Giles Henry Rodway	RK590-US1	3959
7590 11/02/2004 Marguerite E Gerstner Raychem Corporation 300 Constitution Drive MS 120 6600 Menlo Park, CA 94025-1164			EXAMINER KRUER, KEVIN R	
			ART UNIT 1773	PAPER NUMBER
DATE MAILED: 11/02/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/787,501

**Applicant(s)**RODWAY, GILES HENRY PH**Examiner**

Kevin R Kruer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 June 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 28-33, 37-40, 42, 43, 46-54 and 57-73 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 28-33, 37-40, 42, 43, 46-54 and 57-73 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 26, 2004 has been entered.

### ***Specification***

2. Applicant's amendments to the specification have not been entered because the amendments do not comply with the revised amendment practice of 37 CFR 1.121, effective July 30, 2003.

In order to expedite prosecution of the application, the examiner will consider the amendments. When necessary, the examiner informs applicant of the corrections necessary to have the amendments entered.

Paragraph 24-no new matter has been added. Applicant is not able to cancel an amendment. Applicant must resubmit the original paragraph beginning on page 2, line 8 if they desire said paragraph to be officially re-entered.

Paragraph 25-contains new matter. The examiner could not find support in the original disclosure for the proposed amendments. Specifically, there is no support for the amendment stating that the present invention exhibits "improved insulation" or "improved balance of wire-performance characteristics." Furthermore, there is no

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support for the second layer comprising a "selected fluoropolymer." The original disclosure is much narrower with regards to the second layer. Furthermore, the description of the first layer is much broader than originally disclosed.

Paragraph 26-the amendment did not contain a paragraph 26. The examiner assumes applicant inadvertently skipped #26 when numbering the amendments.

Paragraph 27- no new matter has been added. Applicant is not able to cancel an amendment. Applicant must resubmit the original paragraph if they desire said paragraph to be officially re-entered.

Paragraph 28- contains new matter

The proposed amendment states that the carbonyl-containing polymer "may have" a non-aromatic backbone. The original disclosure only supports carbonyl-containing polymers that have non-aromatic backbones.

Furthermore, the original disclosure does not have support for the weight percentages wherein the weight percentages are based upon "the weight of the first polymeric component (or, in some embodiments, based on the weight of the whole composition)." The original specification only has support for embodiments wherein the weight is based upon the weight of the whole composition.

The examiner notes that the endpoint 28% seems to have support on the bottom page 8 of the specification.

There is no support for the limitation that the second polymeric component comprises at least 90% by weight "based on the weight of the second polymeric composition."

There is no support for the endpoint "substantially 100%." However, "100%" is supported by the disclosure of homopolymers.

There is not support in the original disclosure for the newly added second and third aspects of the invention.

There is support for the claimed endpoint "more than 10N" on page 5, line 6.

Paragraph 29- no new matter has been added. Applicant is not able to cancel an amendment. Applicant must resubmit the original paragraph if they desire said paragraph to be officially re-entered.

Paragraph 30- no new matter has been added. Applicant is not able to cancel an amendment. Applicant must resubmit the original paragraph if they desire said paragraph to be officially re-entered.

Paragraph 31-contains new matter.

Applicant is asked to specifically point out where the proposed amendment is supported in the originally filed disclosure.

Paragraph 32- no new matter has been added. Applicant is not able to cancel an amendment. Applicant must resubmit the original paragraph if they desire said paragraph to be officially re-entered.

Paragraph 33- no new matter has been added.

Paragraph 34- no new matter has been added. Applicant is not able to cancel an amendment. Applicant must resubmit the original paragraph if they desire said paragraph to be officially re-entered.

Paragraph 35- contains new matter

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There is no support in the original disclosure for the newly added additives. Applicant seems to be relying on the top of page 10 of the specification for support. However, the additives on page 10 specify the layer to which they are added. Plasticizers, for example, are not listed as being added to the inner layer.

Paragraph 36- no new matter has been added. Applicant is not able to cancel an amendment. Applicant must resubmit the original paragraph if they desire said paragraph to be officially re-entered.

Paragraph 37-no new matter has been added.

Paragraph 38- no new matter has been added. Applicant is not able to cancel an amendment. Applicant must resubmit the original paragraph if they desire said paragraph to be officially re-entered.

Paragraph 39-contains new matter

The original disclosure does not seem to support the last 4 lines of the amended paragraph.

Applicant is required to cancel the new matter in the reply to this Office Action or specify where the amendments find support in the original disclosure.

3. The following is in response to Applicant's remarks on pages 21-28 of the response filed 6/25/2004:

RCE(A)- Applicant's attention is directed to the examiner's comments with regard to paragraphs 24 and 25 above.

RCE(B)- Applicant's amendments have overcome the arguments noted.

RCE(c)- see comments with regard to Paragraph 35 above.

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RCE(D)- Applicant does have support for a metallic conductor.

RCE(E)- the examiner's objections have been overcome by amendment. Applicant states that the claims should be interpreted to cover blends of PVDF and VDF.

Applicant is requested to specifically point to support for such an interpretation in the original specification.

RCE(F)-see comments with regard to Paragraph 29 above.

RCE(G)-the examiner notes that original claim 8 supports blends of the carbonyl-containing polymer with polyethylene.

RCE(H)-The examiner maintains the position of the last office action. The support applicant has cited is insufficient to support the amended language.

RCE(I)-see below

RCE(J)-see below

RCE(K)-see below

RCE(L)-see below

RCE(M)-see below

RCE(N)-see below

RCE(O)-see below

4. A substitute specification excluding the claims is required pursuant to 37 CFR 1.125(a) because the number of the amendments or the legibility of the application papers renders it difficult to consider the application, or to arrange the papers for printing or copying.

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A substitute specification must not contain new matter. The substitute specification must be submitted with markings showing all the changes relative to the immediate prior version of the specification of record. The text of any added subject matter must be shown by underlining the added text. The text of any deleted matter must be shown by strike-through except that double brackets placed before and after the deleted characters may be used to show deletion of five or fewer consecutive characters. The text of any deleted subject matter must be shown by being placed within double brackets if strike-through cannot be easily perceived. An accompanying clean version (without markings) and a statement that the substitute specification contains no new matter must also be supplied. Numbering the paragraphs of the specification of record is not considered a change that must be shown.

The examiner notes that the amendments filed August 19, 2004 have not been entered. If applicant wishes to enter said amendments, they should be marked to show the changes relative to the version of the specification of record prior that was pending prior to August 19, 2004.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 28-33, 51-54, 57-61, and 71-73 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to



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reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

There is no support in the original disclosure for a carbonyl-containing polymer that does not have a non-aromatic backbone. The disclosure stated that the carbonyl-containing polymer was an olefinic polymer, which excludes aromatic backbones.

7. Claims 28-33, 37-40, 42-54, 68-70, are 72-73 are rejected under 35 U.S.C. 112, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. There is no support in the original disclosure for embodiments wherein the weight percentages are based upon the weight of the first polymeric component.

8. Claims 72 and 73 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. There is no support in the original disclosure for the claimed list of additives in the first and second layers.

9. The rejection of claims 30 and 49 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement has been overcome. Applicant has amended the claims to overcome said rejection.

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10. The rejection of claim 35 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement has been overcome. Applicant has amended the claims to overcome said rejection.

11. The rejection of claims 31 and 37-50 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement has been overcome. Original claim 8 enables one of ordinary skill in the art to blend the carbonyl polymer with polyethylene.

12. The rejection of claims 52 and 54 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement has been overcome. Said claims are supported by the disclosure of the original claims.

***Claim Rejections - 35 USC § 103***

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 28-32, 37-40, 42, 43, 46, 51-54, 57-67, and 71-73 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO97/27260 (herein referred to as "Miyaki") in view of Vogdes et al (US 4,693,940).

Miyaki teaches a fluorinated composition comprising:

- (a) 100 parts by weight of a PVDF resin,
- (b) 5-100pbw of an acrylic and/or methacrylic polymer having functional groups, and
- (c) 10-200 pbw of a vinylidene fluoride copolymer (page 4, lines 16+).

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The acrylic and/or methacrylic polymer comprises acrylic ester copolymers comprising at least 50wt% acrylate and/or methacrylate (page 3, lines 14+). The composition may be utilized to bond fluorinated resins, particularly PVDF and copolymers thereof to metals (page 5, line 20), and finds utility in fields such as electric wire coating (page 5, line 15). The layers may be co-extruded (example 6). Said composition is understood to read on the "first layer" wherein the component (b) is the "first polymeric composition" and the "first polymeric component."

Miyaki does not teach that the interlayer surfaces of the PVDF should be irradiated. However, Vogdes teaches a method of enhancing the bonding between incompatible polymers in a laminate structure by irradiating the laminate (col 1, lines 63+). The method results in part from chemical crosslinking across the interface between the layers. It is therefore essential that each of the polymeric compositions be radiation crosslinkable. Radiation crosslinking agents are preferably included in the composition to assist in making them radiation crosslinkable and to improve the strength of the bond between the layers (col 2, lines 36+). The crosslinkers are included in one or both compositions (see Tables A and B). The method should be done at such conditions to allow for at least a two-fold increase in the peel strength of the laminate (col 3, lines 41+). Specifically, heat treatment of the laminate should be carried out at a temperature higher than the melting point of at least one, and preferably all of the polymers in each of the compositions (col 3, lines 49+). The method is especially useful in for heat shrinkable tubes, especially for electrical insulation purposes (col 2, lines

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51+). It would have been obvious to one of ordinary skill in the art to irradiate the laminate taught by Miyaki in order to improve interlayer adhesion.

With regards to the claimed bond strength and delamination limitations, Vogdes teaches that the amount of bonding is proportional to the conditions in heat treatment and irradiation steps (col 3, lines 41+) as well as the amount of crosslinker present (col 2, lines 42+). Thus, it would have been obvious to one of ordinary skill in the art to vary the radiation and heat treatment steps as well as the amount of crosslinker present in order to control the adhesive strength of the resulting substrate to the adhesive taught in Miyaki.

With regards to the method limitations of claims 2, 5, 10, and 11, the examiner takes the position that the method of making a product does not patentably distinguish said product from a product taught in the prior art unless it can be shown that the method of making the product inherently results in a materially different product. In the present application, no such showing has been made.

With regard to claims 31, 32, 37, 46, 47, and 67, the examiner takes the position that Miyaki reads on said composition wherein the polyethylene content is 0%.

With regard to claims 42 and 65, component b is understood to read on the claimed polymer wherein the polymer contains 15-28wt% of repeating units containing carboxylic acid ester groups and the other 85-72wt% also comprise repeating units containing carboxylic acid ester groups. Furthermore, component b is understood to read on the carbonyl-containing polymer of claims 47-50 and 68-70 because the acrylates taught in Miyaki are understood to be "derived from ethylene."

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15. Claims 33, 47-50, 61, and 68-70 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO97/27260 (herein referred to as "Miyaki") in view of Vogdes et al (US 4,693,940), as applied to claims 28-32, 37-40, 42, 43, 46, 51-54, 57-67, and 71-73 above, and further in view of Bartoszek (US 4,804,702).

Miyaki in view of Vogdes is relied upon as above, but does not teach that the PVDF layer should comprise a copolymer of VDF and hexafluoropropylene. However, Bartoszek teaches a composition comprising a PVDF co-polymer with a hexafluoropropylene of 12wt% (see claim 2) that exhibits improved smoke and flame retardant properties (abstract). Said polymers are especially useful in the wiring industry (col 1, lines 6+). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the composition taught in Bartoszek as the PVDF layer taught in Miyaki. The motivation for doing so would have been that said composition is flame and smoke retardant.

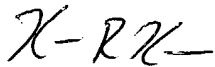
### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin R Kruer whose telephone number is 571-272-1510. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on 571-272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kevin R. Kruer  
Patent Examiner-Art Unit 1773